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ABSTRACT

As part of a three-year federally funded research program intended to shed light on the writing processes of learning disabled college-aged writers (with special emphasis on the use of technology in creating workable mainstreamed curricula), this paper records in an interview format the responses of students to the program, including word processing. The first section of the paper discusses the goals of the project, the equipment used (an Apple II computer and the word-processing product, an early version of "Magic Window)," and a sketch of each of the four students. The second section presents the unsummarized transcripts of learning disabled subjects discussing the capacities and limitations of the technology in accommodating their disabilities. (EL)

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Testimony from Learning Disabled College Writers on the Efficacy of Word Processing in their Writing Process

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A Working Paper of the Learning Disabled College Writers Project of the University of Minnesota - General College, January, 1986

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Testimony from Learning Disabled College Writers on the Efficacy of Word-Processing in Their Writing Process

A Working Paper of the Learning Disabled College Writers Project of the University of Minnesota-General College, January, 1986

Terence Collins and Lynda Price

The Learning Disabled College Writers Project is a three year federally funded research program in the General College of the University of Minnesota. The goal of the project is to shed light on the writing processes of learning disabled college-aged writers, with special emphasis on the use of technology in creating workable mainstreamed curricula.

Literature on the topic is nearly entirely testimonial. What can be said with some certainty is that professionals from a broad range of institutions and backgrounds have reported that commercially available word-processing software used on microcomputers has a positive impact on LD writers. This positive outcome occurs in both performance on writing tasks and in attitudes toward writing. Research studies which provide empirical validation for this convergence of professional experience are, as yet, lacking. (See Nancy Engen-Wedin and Terence Collins, Composition, Word Processors, and Learning Disabled College Writers: An Annotated Bibliography, a Working Paper of the Learning Disabled College Writers Project, January, 1986.)

Reports in the literature which record these testimonials are largely summary. This is understandable, since such things as interview transcripts are beyond the capacity of the journals, given their length restrictions and production costs. In our

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discussions with learning disabled writers who are introduced to word-processing, however, we have found rich insights worth reporting fully. The transcripts carry the credibility of uninterpreted insight, not filtered through the professional's eye. In their own voices, the subjects speak to the capacities and limitations of the technology in accommodating their disability.

All of the interviews were completed after the subjects had been trained on microcomputer word-processing software. The software and hardware employed were a bit primitive: an Apple II+ computer (a serviceable, but hardly state-of-the-art machine) and an early edition of Magic Window (a rather limited capacity word-processing product since, superceded by an updated version). All had had opportunity to use the technology in "real-world" applications in courses after training. All interviews were conducted by Lynda Price, a Learning Disabilities Specialist with whom they were familiar. The specific diagnoses of the subjects' disabilities varied, but all shared language processing deficits. A brief sketch of each subject follows:

Pat is a 25 year-old male veteran returning to college whose disability was diagnosed during his first year at the University. He has severe problems with spelling and no sense of phonics. His performance in college work suffered predictably.

Dayna is a 26 year-old female who was interviewed in her senior year at the University. Word order and word relationships in speech and in writing were both problem areas. Her performance was slowed by her disability: she took six years to complete the first three years of college, but has since completed the final year and has graduated with a 3.0 grade point average.

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Mary is a 20 year-old female in her second year of college who has a number of health problems that exacerbate the learning disability. She has speech problems, limited language exposure, low reading comprehension, spelling problems, and an inability to write connected sentences. Her academic performance is affected by her learning disability, and is marked by a low course completion rate.

Bonnie is a 35 year-old female student enrolled in the University's school of Architecture. She has difficulty with reading comprehension and symbol decoding, but compensates with strong spatial and motor skills. Her academic success is shown by her acceptance in the University of Minnesota School of Architecture.

Gary is a multi-handicapped 28 year-old male who has taken three years to complete his first year of college work. His primary handicapping condition is cerebral palsy. He has limited dexterity, mild dysarthria of speech and motoric difficulties that make use of the keyboard difficult. He has cognitive processing deficits that result in difficulties with sequencing and performs below age level in reading and writing.

A transcript of the interview with each follows. We deliberately do not summarize the interviews. We feel that the subjects' own testimonies speak for themselves.

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Interview with Pat

Q: Could you take a minute and tell me a little bit about what your previous history as a writer was? You and I started working in November, so it would be before November of this year.

A: Well, the only other time I was doing a lot of writing was when I was in high school. At that time I was on the speech team for creative expression, and I could write good stories to tell. But when it came the time to write stories to hand them in or to write reports, they'd always write 'good content, bad spelling, bad structure', and give me a 'D' or a 'C' at the most. Then I started Fall Quarter last year at the 'U', and one of the classes I took was 'Literature for Children' with Terry Collins. At that time when I was handing in the weekly essays, he started wondering, and he pulled me over and started asking me about learning disabilities and computers. He's the one that started me on the track.

Q: So how did you feel about your writing, before November of this year?

A: I actually enjoyed writing, but I never wanted anybody to see it because I knew they wouldn't like it. But I enjoyed the idea of being able to ideas down on paper.

Q: So you felt that you were able to express yourself more easily verbally? Like when you and I are talking, than if you would have to write the conversation down and turn it in to be graded.

A: Far easier, verbally.

Q: Was that frustrating for you? That it was hard with the spelling and punctuation and all that?

A: It used to really get me upset because all the teachers would always be telling me 'You're not trying hard enough, we know you can do better', and I was doing the best I could. They just couldn't see it. They just thought I was lazy or something. And I was mad at them, mad at myself; because I would try again and I just wouldn't be able to do it right. I just couldn't see what I was doing wrong.

Q: So then last November you decided you wanted to start working on the computer, and you picked the MacIntosh, right? Why did you pick the MacIntosh? You're the only person I've worked with that had your heart set on working on the Mac.

A: Actually it started off with Terry. He took me over to Carol Miller's office, and she had one. She showed me how to use it. I'd seen other computers before; I just never could of figured them out. But with the MacIntosh, they're so nice and easy. All I had to do was move the little mouse and point and click, and it did everything. If I forgot to something it would come back and remind me. I liked it, I didn't have to know anything about computers to use it.

Q: What was the problem with the other computers? Why couldn't you understand them?

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A: Because you had to put in, type in the different commands and stuff like that to make it do things. At least once I had seen in the stores, that's the only time before, you had to know a little computer language and stuff to be able to use it properly. And with the MacIntosh you don't have to because you just have all you windows. You just pull down a window and pick what you want to do.

Q: What about the pictures; do the pictures make it easier for you to understand?

A: The icons?

Q: Yeah. Oh, that's the fancy name.

A: Hey, I'm into technical wording. No, well I like the icons. Just to find out what where it's at makes it easier that having to read down a list, I suppose. I don't know exactly how an Apple sets up their filing system. The icons are nice, like you said the pictures; you're able to picture, you know what it is.

Q: And the way the screen blows up, or the screen shrinks, that kind of thing; that's real different from a typical microcomputer where everything is done in words. It's all just strings of words or strings of vocabularies.

A: See, I think that would be boring after awhile. With the MacIntosh, I set it up the way I want. The things there are easy to reach, all you have to do is hit the open - double click and it's open. Instead of typing in open or whatever you have to do with other computers.

Q: So, just for our information, how did you teach yourself how to use it? You met with me for about three hours at the most, and we played with it just a little bit, and then you bought your own computer. And then what happened?

A: I just went home, and first I looked through the MacIntosh manual itself. I just opened up the MacWrite and went through the pages, and played with it the way they suggested. Pretty soon I got a feeling how things worked. I just started working on it. Each time I worked with it the more things I found out I could do with it.

Q: So it's like trial and error.

A: Uh-huh.

Q: Was the manual hard for you to understand?

A: No.

Q: The vocabulary wasn't confusing, or the way it was highlighted; was any of that confusing for you?

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A: Not really confusing. It took a little while for me to remember about the windows, and the files, and system disks, stuff like that. But after awhile, after I got used to those terms, then I didn't find it that confusing at all. You just have to really know the few terms that they use, and if you know them good then you can understand how to use them.

Q: And that's what you figured out yourself, obviously. You figured out what those terms meant, like the icons.

A: Yeah.

Q: Okay, how long all together would you say it took you to teach yourself how to use - MacWrite for instance, in terms of hours? Until you started doing papers with it, how long?

A: Until I started doing papers with it? Maybe three hours. After I started doing papers then I was really learning a lot more. The manual is nice in learning how to do a basic setup, but I think you just have to start in and really just start to work before you can really see how it uses, how to use the editing parts and things.

Q: So if you were teaching, say a LD student came in, and you were teaching him how to use the MacIntosh, what would you suggest?

A: Well if they'd had the initial hours with you, I'd actually like them to come along and bring something that they have, that they need to work on, and work on it, and see in the pamphlets what they need to work with. Because I don't know how you've got that set up yet. I'd like to see them bring in something they need to actually work on, and work on it there, whether or not they use the MacIntosh. Because it gives them, I think, maybe a little better sense of use and why they have the MacIntosh there.

Q: Their own papers, is what you are saying, to really help them. So we're talking what, four or five hours altogether? Two with me and then two or three with the follow-up too, right?

A: Yeah, and they should be able to handle it fairly decent. The rest of it they can kind of figure it out on their own. Discovery. It's part of the fun of life, is discovery.

Q: One thing that a lot of students have talked about in the interviews is that they like working with the computer because it's nonjudgemental. Have you ever noticed that? Does it seem to be easier for you to write because you feel like the computer is not judging your writing, or isn't critical of your writing?

A: Oh yeah, yeah. It just takes whatever I give it and put it up on the screen. Which is nice. You know basically it's the same little typewriter. But what I like about it, computer-wise, is that the screen is different to me than a typewriter page. And I can see how it's set up better. How it looks, you know, if it's done right. Then editing is the best part. That's why I really enjoy the computer.

Q: Okay, tell me about that, about the editing.

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A: It's great. I get a paper back from the teacher with: okay, this is your first draft, before you hand in the final draft you have to correct this spelling, commas here. All I have to do is put in the program, go to the mistake, erase the word, and type in the new one, throw in the commas here and there, I'm finished. If I had to do it with the typewriter I'd have to sit down and just redo the whole paper over again and probably when I was doing it I'd make more mistakes. I'd correct the ones I have wrong but then I'd make other mistakes. After doing a long paper anyway I'm going to make mistakes typing it.

Q: So is that how you used to edit them before you got on the microcomputer, is that you'd put it all back into the typewriter and type it all up from scratch?

A: Yeah, I'd just have to retype the whole paper over.

Q: Sounds like it took a lot of time.

A: That's why the MacIntosh, it frees you up a lot more. It's always stored there, you don't have to worry about losing it. It's not a problem, I used to lose papers. I don't have to worry about that no more. It's all contained on a little disk. If I lose my copy all I have to do is throw it back in and copy a new one.

Q: So, in terms of your writing, has your writing changed any since you've started working with the MacIntosh?

A: Yeah, I think I'm a little more free. I'm willing now to express myself a little bit more, try to use different words. Before my writing it would be very monotone. I'd be repeating a lot of words because all I did . . I didn't dare go too high. It's just simple words so I know how to spell them right. With the Mac I can sit there and type up words I know I don't know how to spell. I can put them in, then I have the speller. I flip that in and it says, 'Hey, this word is wrong, these words are like it, which one do you want to put in?' I'll pick out the correct spelling and flick it in.

Q: So you're using the spelling checker?

A: Yeah.

Q: And how do you like that?

A: That's great. There's only once in a while I have problems with if I spell a word really off. Then it doesn't recognize them and it'll say: sorry no words found. So all I do is hold on the action and I do back to the old nitty gritty, grab the dictionary. If it starts with an 'A', I'll look through all the 'A' words until I find it or something.

Q: That sounds real tedious?

A: Yeah, I hate that part but if that's the only way I can find out how it's spelled, I'll go for it.

Q: And that's how you used to do it before you got the spelling checker?

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A: Yeah, you know I might know the first two letters of the word, 'a' 'c' for 'accord' or something like that. Then I'll go through and I'll look through all the 'ac's until I come to 'accord.'

Q: So how long now would it take you to write a paper? You showed me a paper that was about three or four pages. How long would it take you to do that from start to finish?

A: From start to finish? I think I whipped this one up in about two hours.

Q: About two hours?

A: Of course that was with pausing. I type a little bit then save it and go off and have a cigarette or something. I suppose all in all work is maybe forty-five minutes.

Q: Forty-five minutes?

A: Forty-five minutes to an hour at most. So like I cranked up one last week for a class: "Science Fiction is a Form of Utopian Thought."

Q: Tell me again now?

A: "Science Fiction is a Form of Utopian Thought"

Q: "Science Fiction is a Form of Utopian Thought"?

A: Yes, honors college with the CLA. And we had this one . . we had to read a book and we had to decide whether this one utopia would come to be or not. And I sat down and I just couldn't get nothing out of my head. Now I wrote the initial paragraph but I just couldn't get anything till one night, all of a sudden, I sat down and in about an hour, four pages came out. And then I printed it out and handed it in. I was one of the only people. . only two people got A's. I'm sure if I would have had the typewriter I never would have been able to do that. Because I couldn't have saved the opening paragraph, I wouldn't have been able to check the spelling so quickly. Because after I wrote it I did a little editing, I switched a couple of paragraphs around and stuff. To get it in better order. That's another thing I like about the MacIntosh, sometimes when paragraphs get mixed up and I'm writing so all I have to do is take this paragraph, I'll cut it, I'll put it up here and paste it there. I can organize things a little nicer.

Q: So I want to make sure I have this clear. You say that before it would take you up to two weeks to do a paper?

A: Yeah, just redoing it. I'd be scared. Sometimes with those papers it would take me maybe three or four days before I even started it. Just thinking about it. Then I'd write down a couple sentences and I'd stop because I'd be scared to do anymore. Then I'd write down a couple more a day or two later. Then I'd just compile until soon I had maybe two pages worth of paper. Then I'd go through and rewrite it all again because I'd never be happy or satisfied with it. With the Mac I just sit down start hitting the typewriter buttons and it seems like it just flows out of me and on to the screen. And I just do a quick edit and it's ready.

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Q: Two weeks compared to two days, right?

A: Yes, I like it.

Q: That's amazing. It sounds like it. Could you tell me, has your attitude and confidence level changed at all? Your attitude towards your writing, has it changed?

A: My attitude is that I still enjoy it a lot more, but I'm a little more open in showing it to people. I'm not as scared as I was before that they're not going to like it, they still may not like it, but I don't care. I know they're at least going to think, someone with a little intelligence for a minute said before (of my paper) that there were no more than four letters in a word. It's just like "Don, Dick saw Spot." That kind of writing and I didn't want anybody to see it.

Q: Some of the students have said that it's easier for them to see their mistakes now that they're on a computer. For some reason they can pick up their spelling errors or there grammatical errors. Has that happened to you that's easier for you to see what's wrong?

A: Yes, I can see a lot of times what's wrong. I will miss a few ones, close ones, but I can see a word a little easier if it's grossly misspelled on the computer. The problem is I still don't know how to spell it, but I know it's spelled wrong.

Q: And that's when you pull out the spelling checker?

A: Yes, but see that's the thing I don't have to worry about that because the spelling checker scans the document anyway. So the thing I really do after using the spelling check is I like to run through it and make sure I don't have any things like "and and", sometimes I'll type two 'and's' in a row. Or I'll have the wrong tense because it won't pick that up, or it won't pick up any typing errors like "I want to buy that god," instead of dog. It won't check or pick up that so I run through and check for those kinds of things. But it's nice because on the computer all I have to do is run down the scroll bar and hit the paper reflection pass key, so it's easy to check for that kind of proofreading.

Q: So you check it right on the screen then, you don't even run a hard copy of it?

A: No, I don't run a hard copy of it until I'm finished. I save paper, I'm cheap.

Q: So, in summary, you would say then that since November you used the MacIntosh for how many papers? How many different papers have you written since November?

A: Since November? Well, actually I didn't get the 'Mac' until March.

Q: Oh, that's right.

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A: I did two papers, three papers last quarter, before the quarter finished. And now with this writing course, I've done this is my fifth paper for him. And that's at least two drafts per paper, and I've handed in another paper for another course. Well, that plus I'm caretaker for my property building, so I've got a lot of notes and notices and stuff like that recorded.

Q: Personal?

A: Yes, I can make a big attention notice for the tenants and really catch their eyes.

Q: So, if you were trying to explain to somebody that knew something about learning disabilities, but they didn't know anything about computers, and if you were trying to explain to them why this is a valuable tool, what would you tell them? Why is word processing a valuable tool for learning disabilities people?

A: Well, first off it frees your time. It's a lot easier to use than a typewriter. The computer is only set up like a thinker, so when you put something down there it's easier to see when it is wrong. The computer sometimes, I think acts when it's wrong. I can sense when mine thinks. It's easier and frees your time, it makes you more creative, makes it a lot easier to see your mistakes. I'm just telling them to use it, and if they don't like it, they don't have to use it. But you should at least try something once.

Q: Would you suggest that they buy a computer?

A: Not until they have tried one for awhile. Especially now since they're available for them. It's a lot smarter to come in here and use this MacIntosh for maybe a quarter, type your papers up on it and see how it works for you. And if you like it, go ahead and make the investment--because it is a large investment.

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Interview with Dayna

Q: Can you describe for us the process that you will go through? Would you do a rough draft or would you do an outline? Or let's say you had a paper due. How would you approach that?

A: First of all I would have to think for several days the idea what I'm going to do. The idea all depends on how much information I have to talk about. I usually have several ideas but I have to cross some ideas out because I don't feel I have enough information to put down in my paper and you think that's kind of, well, its a weird process because sometimes I get too much information or I talk too much detail stuff on that topic this gets to be hard when I start getting organized to lay out my paper. I know that with the skills you're supposed to lay it all out, have your transition sentences and all this stuff but somehow the time to really use those skills to write my paper becomes hard. And I try to write it down, and I write little 'A's' and 'B's' to talk about within that paragraph the ideas with what I'm going to talk about so that I try not to repeat myself and duplicate the same thing in the same paragraph but I guess the whole thing with working on this, I start writing my paper and I don't like what I just read so I recopy it over, rewrite it . . .

Q: Do you scratch it out?

A: No, I make big 'X's', I knot up the whole paper throw it in the garbage can, the whole garbage can gets full by the time my paper is, you know. I cannot start it a day beforehand. I start it way beforehand, to try to work on it. No, I go through the paper, that's why the word processor is great because I keep dealing with that same individual paper. The other way I spend too much time looking at. When I write it down by hand on a piece of paper, I tend to not keep writing and just complete it and get it all done and I try to tell myself to do that but you know how you have to kind of go back and reread to kind of pick up again of what you want to say. Then when I go back and reread it again I get caught in those details again and then I'm not happy with what I reread and so then I change it where I really know that, hey, I should just keep writing until it's all done and then go back and recorrect it. But somehow I just . . .

Q: It doesn't work?

A: It just doesn't function that way. A block comes into play again I get caught back in the first paragraph. Recorrect that. Several times. And then once its perfect then I'll make that on a fresh copy and then I'll start my second paragraph. And then I don't like my second paragraph and that gets several copies and then I finally pick the one that I like and try to keep building and by that time I go through tons of paper and that's time consuming.

Q: That's what I was going to ask you. Do you have any idea how long it would take you, say, maybe to write a one or two-page theme? From the time you sat down to start writing it till it was finished, before November.

A: Several times. I would say that could make eight different copies just with the one to two things. I know with my admittance for ICP do you know how many times I've rewritten that?

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Q: I can't imagine.

A: And I had my boyfriend help me a little bit, you didn't know that part but I think I've made eight copies for that two pages. Eight different copies. And finally now it's accepted. At eight.

Q: At eight, right. And we're talking probably a couple months, easily.

A: We're talking a whole year. . .

Q: A year that you've been working on that one paper?

A: . . . that I've been working on that one paper

Q: Did you ever get any help before with your writing, like at Rochester? Or maybe in grade school or high school, can you describe that briefly, what kind of previous help you got.

A: In writing in high school, I didn't get very much at all. In eleventh grade when we had to do a term paper, they just expected you almost to know how to do it, I mean they didn't help you and say you had to go find reference book and look up things but I really didn't understand the whole operation of how what parts you were supposed to copy out of the book and what parts you could rechange and put into your own sentence and footnote I didn't get the whole process down. It was so complicated and it wasn't explained to me very well. So what I ended up doing for my research paper was take my next door neighbor's when they went through and revised it. And I handed it in and got a 'C' on it. And she never knew and that was one way of me getting over that step. I mean I didn't like doing what I did but I was just so swamped under that whole quarter for that English it was just on that term paper and it was like as weeks went on, the further it got, the more swamped I felt. I couldn't ask to go back I was too embarrassed to go back and ask: how do you do this? You can't go to other kids and ask them how to do it because they're . . . you know, I didn't want to come across as being dumb. My writing skills were very poor in high school, I did anything and everything to try to get by without doing it. And I didn't take the type of English classes where you did have to write papers. I finally realized that the traditional English that was set up, I think it was, well after that one quarter of my eleventh grade where I did that term paper, then finally I went in and took individual classes where I worked on my spelling and grammar and things like that on an individual program.

A: . . . but I worked for a good . . well, I worked for one year very closely with her all the time. I'd go in almost every other day with her and worked on my writing. Because that's all you do in freshman English is turn in papers so we had one paper right after the next, and I remember my papers were just full of red lines.

Q: That must have been real hard for you?

A: It was. It was frustrating because I felt like when I write, I take it into a tutor and she changes everything that I said. Some of its the same but still when she changed it I still didn't see that it was my paper I felt it was her paper because it seemed like she changed all my ideas of what I said.

Q: That makes a lot of sense. And you shared with me that since you've started using the computer you feel more like its your work, right? I remember you telling me that one day.

A: I just feel that people say: well, if you can't write well, go in and use a tutor to help correct your writing. Well, yes, I realized my paper is going to get corrected but then I always feel that I have to take it to a real smart tutor to do wonders with my paper to get the better grade for my paper and I just don't feel that's right.

Q: I hear you saying that that doesn't answer a lot of the problems for you, to go to a tutor.

A: No, it doesn't. It doesn't help me at all. I'm still frustrated, and I still have problems with my writing so I'm not improving. Even if they correct it and say: okay, you forgot to use the adverb. Okay, I forgot to use the adverb and if he asks me, just on the single level, what's an adverb, I can usually tell you.

Q: Connecting all the pieces, is that where the block is?

A: Connecting all the pieces, yeah. I can't keep all my tense forms the same, like 'are's' or 'is'. Or plural forms, I still am getting goofed up on that. But yes, when a tutor corrects it, the only reason why I take it to a tutor it is so that they can correct it so that I can get a better grade. And there is no satisfaction at all taking it to a tutor only that I've taken it in and they'll correct it for me. But I don't feel good about my work. Even when I take it in to them because I'm saying "they're doing it, I'm not doing it, they're doing the corrections."

Q: From you've told me before, up to November this was the most help that you had had with writing.

A: Yes, this made writing more fun. For some reason it was more fun to write, where before it was always a pain to write. Just because I would go through so much paper and by looking and seeing that wastebasket going up with paper that was frustrating. In a way, the computer is an encouragement to keep going on. It's another supplement to aid, but it is not a human, so it's not somebody who can criticize your work where a human can criticize your work and then you know ah-hah my paper wasn't good enough. But somehow when you write a paper on the computer, the computer can't say this isn't good enough so you can't feel bad about what you put in because the computer doesn't know it it's good or bad and it's not judging me. So, in that way it's real fun because then it's just me working. It's me who has to correct my mistakes and nobody else correcting my mistakes or correcting them for me.

Q: What did you think the computer would do for you?

A: I didn't know because I didn't know at all the possibilities of what the computer can do for me. But now I know what it does. I know that in my writing I have some advantages. I know that I always have good ideas, that's one thing that I'm really good. A lot of people that read my papers, they like to read it because the ideas are there. I have some real good ideas, but somehow I can't

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make those ideas come out very clearly. And I think the sooner I can do that the better my papers will be because I definitely have the ideas there. But dealing with the computer I had no idea what it could do for me and I didn't realize how fun it was to work with.

Q: You've been working with the computer for how long now? Maybe five or six months?

A: Since November. Right. When you trained me in we went through a couple of packages and I kind of stopped it right there because I was getting frustrated because you wanted me to go through what you wanted to teach me. And I said wait a minute, just give me the commands. Just give me the main controls. I wanted, like you said, just quick learn it so I can start using it. I didn't want to go through all the formality of trying to learn all these things. And then when we started working about what the commands were for the computer then it was like okay wait a minute, now I've got to stop, now I'm picking that up. But now how does this relate. I wanted to see the whole picture of what happens and that's when you went and broke down and said okay you do this and this gives you the subsystem and that gives you all the options of where you can go to after that. And you drew out a picture diagram because I learn better visually so I needed a diagram to see what the computer was actually doing. Where the steps were going. And I needed to see that circle, the picture of exactly what the computer could do for me. And then once I realized, oh, so this is what the computer can do for me. I know the controls now and this where I go, I can save it, I can do this, I can get it to print up. Then I got kind of the full picture and the I was able to, I think expand some of my controls of what I could do too with the computer.

Q: Sure, to expand to the point that now you can work with other students.

A: I think the main point of going through those packages was if I want to know some information about the computer I think it's best if I just tell you what I want to know and then you give me the answer. Because if you give me what you want to teach me I'm not always interested, or I don't always understand the full picture yet. And so it's harder to accept that knowledge. Where if I can just give you 20 questions about the computer first, and say 'Okay I want it to do this,' it seems like I can learn.

Q: For you that seems to be a good way?

A: Yeah, I need to learn for me. So I think it's good for me to start off with questions first, just some basic questions first about the computer. Then you just quick answer that so that I feel somewhat satisfied. Because if you just start teaching me what you want me to know about the computer, I don't feel that connection yet with the computer. But if I put the effort in of wanting to know about the computer, then I can learn. Then I'm more excited about the computer, put it that way.

Q: And it sounds like you're more motivated.

A: And I'm more motivated, right.

Q: I think you shared with me about a month ago that you've done three papers on it?

A: Yeah, three papers on it.

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Q: And you said that the last one took you about five hours to do? And before it would of taken you how long?

A: We're talking days. I had some papers to do the quarter before, and I was just dreading it. I mean it was just like I knew I had to get it done. It's funny, I've always had bad experiences, and people have always corrected my papers, so how can anybody feel good about their paper if somebody's always changing what they're doing. Then you feel this low self-esteem that you are not very good about doing papers, so then when you have to do papers, you already have this negative feeling about 'yuck, I've got to do a paper'. And you just don't have any excitement to even begin the paper. It's just a pain from the start to the end. All you want to do is just get it done. And not even have to worry about the corrections. Just get it done first and then I'll go and worry about the corrections.

Q: Where as now how is it different?

A: Where as now, last quarter when I went to do my papers, I was really excited. It was like, 'I'm going to go now and work over on the computer for my paper!' I was excited, I felt good about even just approaching starting to work on my paper. I was excited all the way through the whole thing. Somehow with the computer, it gives me reinforcement through the whole process. It doesn't give me any negative feeling. I don't look at every little detail when I look at the screen and see some of my mistakes. Because I know that I can put everything in, go back and correct it whenever I want to, then when I feel that I've got most of my simple little errors out of the way, and I've put in my paper; then I go and I print it out on a piece of paper. Then I go and I read that, then I circle all of my errors again. Then I go back to where I saved my paper, and then I go back and make those changes again. So, it's only really two steps of correcting. It's not all these several procedures of correcting the material. I find out too, that somehow with the computer, which is really weird, it's easier than using a typewriter.

Q: Can you talk about that a little bit?

A: Which is a really funny situation, because you think well that should be the same thing. But dealing the typewriter, there comes that block again. I type it in, and I just get too caught up on the details of trying to correct every little word. I do. But somehow, with the computer, when I type it in, it's another aid. I visually see the words for a fun procedure, instead of just one line at a time. I don't know what it is. I guess the computer is fun to work with. By having it fun it supplements another aid. And I don't know why a screen does that in a computer compared to a typewriter and a piece of paper; I really don't know. It's funny. Because I know what's happening. Because after I use the computer I try it at home with the typewriter to do it, and I still, that negative feeling is still there about getting my paper done. Where when I use the computer, it's fun and enthusiastic to get my paper done. And I want to work on my paper, I want to spend some time getting my paper better. Where the other way it's not there. It doesn't give me any reinforcement. But somehow the computer gives me reinforcement. Where I feel good about my paper.

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A: I believe, when I work with the computer, the way I learn to begin with is I pick up the detailed things before I pick up the general things. And, if I don't have any general categories, I can't put these detailed things in those slots. And my detailed things even float away. So what happens when I'm working with the computer is that it somehow aids me to see the whole broad paper. The whole concept of the paper is to complete it, to finish that paragraph, or to put a period to end that sentence. Where when I'm dealing with just a plain piece of paper, I tend to go to the details and I look at every single little word. And I keep trying to change even every single little word. That's what makes my paper such a long process to complete. Where when I do it with the computer, it kind of reminds me to, 'Okay, you've got to finish this paper.' It kind of tells me that for some reason. I don't know how it tells me that, but somehow maybe that's part of my the reinforcement that the computer gives me. Which I can't explain right now until I still work with it and broaden my experience with the computer and try to analyze how that is actually working with me. Or dealing with me. How I can overcompensate my handicap when I deal with the computer.

Q: You were saying before when you and I were talking, that somehow the computer helps some of those negative traits to become positive.

A: Right. It just makes me focus on seeing the whole paper, and getting it down. When I work with just a piece of paper, I get too caught up on it.

Q: One other question that I'd like to ask you is - if someone is training a learning disabled adult how to work with a computer, what would you suggest?

A: Maybe first ask them .... Try not to deal with the negatives. Try not to ask them what their fears are working with the computer. Because, why bring that up anyway. Try to figure out why they are excited to work with the computer. And deal in the positive sense. If they're excited to work, the first step is to get them excited to work with the computer. You can tell them 'Hey, the computer is going to help you with your writing.' But until they believe that; then the situation will be better. So it's almost like you kind of have to prepare their psychological mind before you even approach the computer. Because I think if you just take a learning disability, and set them at a computer, they're going to be confused. They're going to have their doubts, they're going to already feel frustrated before they even begin. So you've got to relax them a little bit and try to get them in a good frame of mind before they even sit in front of that computer. And then ask them first, some questions. 'Well what do you want to know about the computer? What can I answer for you first about the computer?' And just play question and answer game for awhile, until they feel a little bit more comfortable. And then ask them, 'Now are you ready to learn more about it?' after you've answered a few of their basic questions. Then go through and tell them. I think it's good, they'll want to know that information right away. So go ahead and tell them some of the controls: how to go back to the menu, how to do the control. And then go back and give them the general picture. Because, I think with most learning disability people, they go into two extremes. They see it too much in the broad, or they see it too much in the detail. I think they lean more to the detail. So give them some detail information. But then come back around again

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and give them the broad picture of what the computer can do for you. Try to always go back to the broad, because they'll want to keep knowing the detail. Because they want to quick get their paper done, they want to quick know the commands to get their paper done. So, you have to give them that because that's what you want to know and that will encourage them to be more excited about the computer.

Q: Do you have any sense of how many hours in which you would spend working with a student and the microcomputer?

A: Of just preparing them for the commands?

Q: Yes. Or just preparing them so that they can write a paper on their own and feel independent.

A: I don't think it has to take long at all. I think just give them a few basic commands that they can help right away, no more than like ten commands. Just real few, because I think the best thing to do is to get experience and to get the feel of the computer. If you tell them what to type in, they really aren't learning it so you've got to let them just sit at the computer and let them maybe just write a letter to their sister, brother, or their mom or something. Do a fun little experience with them first so they get the feel of it. And then once they say: Okay, now I want to know. Once they get some experience behind them, then give them some more commands. It's like anything else, you need a little bit of experience before you can go on further to know more information. You can't just learn the product knowledge without no experience. It won't sink in that well.

A: If they could just accept a few basic commands and just accept them right now for what it is and then try to do some experience with the computer, just doing a fun little letter and use those commands then it will sink in. I think what I want to sum up about the whole computer is its changed my whole attitude of writing papers. Before it was such a pain to even begin it and I wasn't excited and I can say now that dealing with the computer somehow it gives me that reinforcement and since it gives me reinforcement where it overcompensates that block and it aids me its like a teacher but its almost become more than a teacher which is dumb to say because nobody should replace a human but this human doesn't criticize me and that's why I guess I like it. But I'm very excited and my attitude about writing papers is very positive. And I'm more willing to work on my papers now with the computer and I think that's a good attitude now to have. Where before I kept being criticized and now the computer doesn't criticize me so now I'm starting to feel good about my papers because nobody is criticizing me anymore. I know that my papers aren't perfect anymore and I know I still have spelling problems or I know my grammar is not right but somehow I'm building my confidence back up about my papers and I think that's the most important thing; because if someone is constantly criticizing you. . .

Q: Are your grades any better? The papers that you've done. Or is that not a fair question?

A: I think they have. Yeah, its hard to tell right now and the only reason why its hard to tell is because these papers that I turned in were part of my finals so I didn't go back to my teachers to dig up how well I did on my final. If I

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were to do that, which I probably should so that would give my reinforcement, then I would really know. But right now I don't know because I haven't actually seen the letter grade that I got on my paper but to me it doesn't matter its because my attitude has changed just with using the computer and I think that's the most important thing is not to have that negative feeling about writing papers.

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Interview with Mary

Q: Mary, could you give us a little information about your previous history as a writer; what your writing was like before you started working on that computer?

A: My writing was really bad. I couldn't spell very good. I'd write things down on paper and I'd spell the word wrong. I'd get really frustrated because I wouldn't write a word on the paper right. And, I don't know what the deal is, but since I've started using the computer I've made a big change. I can see what is in front of me, the same words that are on the paper. And when it's on the computer, I can see where my mistakes are right away and change them. I'm catching them now, faster than when I could before.

Q: Let's go back to like when you were in grade school and high school; what was your writing like? Like in grade school when you had to write themes, and in high school when had to write them?

A: It was bad. I just would really get frustrated. I wouldn't want to do nothing because I'd write something, and something would be spelled wrong and I'd get real frustrated.

Q: Would you get any help with your writing at all?

A: No. Up until I was a sophomore in high school is when I started getting help.

Q: And what was that?

A: That was a group called 'Special Help'. I never really got much of that until ... really I never got <u>much</u> of that. They did some, but most of it was just trying to correct the words and stuff. To help me correct the words. I found, basically, the tools I needed that I should have had back in high school, when I was in college. Like, how to use the dictionary.

Q: And you didn't find that out until you got to college?

A: Right.

Q: So you're saying that that past help really didn't do you a lot of good with your writing. So what would be a typical process that you would go through? Say you had a theme assigned, like a high school English class. How would you try and write that? What would you do?

A: Back then? Well I'd look up things and try and write it. My old way was I used to cheat from the book; take and copy stuff out of the book. I'd get by with that. And some of it did work, but you can't use it all the time. Because you've got to put your own words in. When I'd start doing that I'd start spelling them wrong, so I didn't like it. I used a dictionary but I'd get frustrated because I wouldn't know how to look up a word, I wouldn't know how to spell it right.

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Q: What about using unlined paper, or paper that didn't have lines on it. Was it a problem for you to keep your lines straight, to keep the spacing?

A: Yeah, it was so crooked. I always had a paper that looked like it was going sideways. Especially with unlined paper.

Q: So what kind of grades did you get in English classes, like in high school and junior high?

A: I got C's and D's. I do remember one thing that I wrote that I got an A on, but that wasn't for an English class, that was for a Science class.

Q: You're kind of different than the other students that we've taped in that you taught yourself how to use the computer. And it took you about a year, you told me, to teach yourself? Can you kind of describe that process for me?

A: I had an upper level English class, and I wasn't sure how I was going to get through that class. I had a theme to write every week. Well I started talking to the instructor, and he suggested that I use a computer. I wanted to try it and just play around with it. I one day sat down with one of the tutors and asked if he could tell me a little bit about the computer. He taught me just the basics. I went on it a year all by myself, and just started teaching myself what I needed to know.

Q: Okay; and what was your first response to the computer when this instructor said to you 'Why don't you use the computer.'?

A: 'Oh I'm not going to be able to do this, because it's like a typewriter.' I had used the typewriter a little bit back when I was back in high school, but not very much. That was like, so little. But after I used it a couple times I got really familiar with it. I mean it was new and all that. I got used to using it. If I made a mistake I could go back and change it. That's what you couldn't do with a typewriter.

Q: I see, okay. So that was real important to you, being able to self-correct your own errors?

A: Yeah.

Q: So basically you sat down and tried to use the manual and just played with the computer; just kept trying to work your way through the manual. Was there anything about the manual that made it hard for you to understand?

A: Yeah, the manual gets too complicated, I think. It's too ... you've got to really sit there and look at it and really figure it out.

Q: Yeah, because I remember you telling me, and this has been five or six

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months ago, you told me it took you almost a year, if I remember right, for you to actually figure out how to use the software between the manual and the instructions this person wrote out for you in your own experience right?

A: Right.

Q: So it took you almost a year to use Apple Writer, and at that point, you had done what? Probably ten or twelve papers at least, didn't you?

A: Yeah, yeah.

Q: And you just sit and keep writing rough drafts, over and over and over again?

A: I'd write one and then I'd print it, and I'd look at it and circle my mistakes. It was saved so I'd go back and pull it up, and I'd go back and I'd take the rough draft that I had in front of me, and I'd take and I'd go and I'd see where my mistake was and I'd correct it. I'd use twenty-five sheets of paper but I'd do it until I got to the right one.

Q: Were you satisfied with what you got? The final draft?

A: Yeah, yeah, because I was coming up with a real good final draft.

Q: What happened to your grades when you started using the microcomputer?

A: Oh they changed. They went up.

Q: They went up? Tell me about that a little bit.

A: Well in that class, I ended up with a C in there, which is really good. Especially since it's an upper level class. I didn't ever expect to even pass the class, and now I got a C in there. Now, on my own, writing a report paper for General College - the Human Services, I somehow gave myself the confidence, saying 'Hey, you can do it, just sit down and write it.'

Q: No kidding? So you're writing kind of a project.

A: Yeah, I am.

Q: It's like a multi-page paper, right? Totally on your own?

A: Yeah, yeah.

Q: And you feel like you can do it?

A: Yep.

Q: Good for you, good for you. That's really neat.

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Q: So Mary, you've had a lot of experience now working with the computer, and tell me a little bit about which software you like best. You've worked with Magic Window now, and you've worked with Apple Writer, and you just tried some new software, just brand new software.

A: I'm not sure what to tell you on that!

Q: Which of the three do you like the best?

A: Probably the newer stuff that I tried, so far.

Q: Okay, why do you like it the best?

A: Because it's real easy. I mean it is just real basic.

Q: What's easy about it. Tell me about that.

A: The steps. The steps you go through. You just don't have ten different steps to get to your code, to get to what you want to get to your writing. I mean this is really easy. And then if you make a mistake, there's a category on that to tell you where your mistakes are.

Q: I see. So the software, the way it's written is easier for you to understand?

A: Yep.

Q: If say you were talking to a professional or another learning disabled student, and you wanted to explain to them why it's good to use a microcomputer, what would you say?

A: Well, if it was another learning disabled student, I would say that the computer has advantages for the spelling; your writing - being able to read your writing, being able to read what you wrote. Just being able to help you all around. And it does not take that much longer time. If you were to sit down and write and get frustrated, and sit there for three or four hours trying to write a paper, you can sit at that computer and write that paper and save it and go back and change your mistakes.

Q: Okay, so let's say that before you started using the word processor, how long would it take you to write a paper?

A: About four hours, four or five hours.

Q: Four or five hours to write a paper for class?

A: Yes. That wasn't a very big one either, I mean that was like only four pages.

Q: Okay, okay. Now let's say that you're using the microcomputer. How long does it take you to write that same paper?

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A: Two and a half to three hours, counting time and a half, now that I know what I'm doing.

Q: What were the obstacles for you, in terms of using the computer? What were obstacles that you saw were problems for you?

A: Well, remembering things, remembering like the arrows, remembering how to use the print, just remembering how to do things. Until I got them written down. Remembering how to start.

Q: So it was the actual steps using the computer?

A: Yeah. Once you got familiar with it, there was no problem. It's like it's stuck there now.

Q: So how has your attitude changed in terms of your writing?

A: Oh I enjoy writing now.

Q: Do you really?

A: Yeah. I thought, 'when I have to do this project for GC, am I really going to want to do that project or not?' But, I just thoroughly enjoy writing now. It's no big deal.

Q: So you feel like it's easier for your thoughts to get out now, than before?

A: Yeah, it is.

Q: Okay. Could you tell me, if you were (because this is another project that you're involved in with me right now), if you were training in another learning disabled student on how to use the computer, what would you do with them?

A: I'd take them on step one, right from the basics: where to turn the computer on, which disk drives to use, what to use. Just the basics, how everything works.

Q: How would you do that? Would you give them a manual?

A: No, I would sit down with them step-by-step because it would be easier for them to learn and faster for them to pick it up. Giving them a manual and say 'here read this manual', and there sitting there trying to read it, they'll get frustrated and say what's the use. You're losing time limit. You might as well go through it step-by-step first until they know what they are doing. After they know what they're doing, let them go on their own.

Q: Do you think it's important to have computers assessable for all these students, like maybe in a laboratory or maybe at Folwell Hall like you were telling me?

A: Yes, I think they should have more on campus that are assessable. A lot more.

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Q: In different places on campus, or during different hours of the day?

A: During different hours and plus different places because it's kind of hard, I mean yeah they got computers in certain places you can use if you get special permission and all this. I mean you have to go through all the red tape, but if a student was able to take your I.D. and go and use that computer, write that paper, and print it out then—that would help. It's when you can write your paper and not proofread it until two days later, that's when you get frustrated.

Q: So kind of in summary, what would you say, how has the word processing changed you right now?

A: It's changed me a big deal. I feel I can write better now. And I am more willing to write now than I was before. Before I didn't care about writing, I didn't want to write. And now I can really write a lot better.

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Interview with Bonnie

Q: Start by talking about your previous history as a writer. What your writing skills were like.

A: I've always tried to get around writing. I've found that I have found (which is probably wrong to begin with, so you can see my writing talents), that I have come up with an ingenuous way of not writing, of not putting it down in written words with my own hand. Because in writing a letter, I've always been criticized for my spelling and for not writing the letter down coherently so that people can really read it. I had even went to the extent where instead of writing letters to my mother I bought two tape recorders, one for her, so that we could tape letters back and forth. And that also speeded it up, I wouldn't sit there for hours on end trying to think of what to write, I could just sit there for thirty minutes and talk to her.

Q: So, your problems with writing had been in both your personal life in terms of your own, like writing letters and that kind of thing, and also writing in school?

A: Yes.

Q: How did that affect when you were in school, like your assignments? Maybe for junior high and high school when you would have to write papers, themes and that kind of thing?

A: A lot of times especially in high school, I would end up not turning in anything, none of the assignments. I had some very good excuses.

Q: What were some?

A: I can give you a lot of reasons why I left that paper at home, which is a lie, because it wasn't written in the first place. I wrote very few of them that were due. A good aid that I would have was sometimes I would sit down and talk about it with my mother and my mother would end up saying "Oh that's a good idea, why don't we put it down on paper, and she would put it down her way, her English background, and it would come out sounding much better than anything I could have ever done. The idea is that the instruction helps.

Q: So then you were introduced to a word processor. Tell me a little bit of your past experience, with computers and word processors.

A: I'm married to a computer. He thinks, eats, and sleeps computers. Sometimes he gets a new toy for the computer and takes the thing to bed with him. And they're his. He even has this special savings account for computers, and he pays his technical membership fees out of this, and he buys the little disks that he needs for his computer, and everything. It is all his, really - work tool. It is a hobby, work, a job. He is very concerned about his computer; that you don't touch it with sticky fingers. And I'm 35 years old, and he's talking, 'Don't get my computer full of your jelly sandwich.'

Q: Did you work on the computer? Or did you have any freedom with his computer?

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A: Yeah, I tried to do a program that he bought for me. He decided that in order to ease my grief over the fact that he had gone out and spent over $900.00 on the computer, that I would feel a lot better if I could also use the computer. But then there's that thought that I might break the computer. So he went out and bought a tape, a disk. The problem with that was, I had to know when the red light was on, when to put the disk in. And that really imposed upon me quite a bit. I had to make sure that the area was clean around the computer, if there was a breakdown or something. And that I followed the directions that he gives me precisely. And he is so high and above computers, I mean he's way up here. Looking down in passing when he first accessed the computer, he can no longer remember that. So he wrote down the instructions on how to use the computer, but he left out a few steps. Like how to turn this button on. So I would start getting into the computer, and get lost. And he didn't even know I was missing some of the stuff he does, because he does it automatically. And I didn't know about that.

Q: So then when you came to work with me on computers, how did you feel about coming into the situation, and trying to do word processing?

A: I'm going to blow it! I should know this, I really should. I mean I felt like - I'm going to get to the end of this disk, like the disk on the TI, and the whole machine is going to die. I'm going to think that I did something, and I'm going to sit there and I'm not going to want to tell anybody about it. Because if I get into a problem, I've got to get myself out of it before I wreck the computer. I might do something wrong. I don't want to do it but yes, I do want to do it.

Q: And how did that change? We worked for about three sections, didn't we? Using the packets and the disks. How have your perceptions of the computer changed now?

A: Well, the Apple, I'm really anxious to get back and keep going on it. I still am a little bit worried about using my husband's toy. But the Apple is something different. I know that if I'm going to blow it that people are going to understand, that I just didn't know what I was doing. But with the TI, I'm still a little bit wary to get back into those programs and learn their language. Because, if I blow it, my husband won't understand because I'm a bright, intelligent super-learning type person. And he wouldn't have married somebody who blows the computer program.

Q: So you're saying that a good part of your success with the computer is how you turn on the computer?

A: Yeah.

Q: I don't want to put words into your mouth, but I'm gathering that from what you're saying.

A: Well, I think it's the same problem that I have with a lot of the teachers. I can go in, and I can really relate to one teacher, and know exactly what he's talking about and how he's going. And I could take exactly the same class from another teacher, and maybe totally miss his whole subject content just because he has his class structured differently. So it's the structure of the program that's being taught.

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Q: Would the packets help you on that? I'm real interested in your feedback. Do the packets seem to help you understand?

A: To a point. Well, there is not packet for TI. So you have nothing to read and work at at the same time. So, you don't have anything to read and go to. It was like an extra aid. If I blew it, and the computer wasn't going to give me any help, I could go back to the packet.

Q: So all you had was a disk, in effect.

A: All I had was a disk. Right. So any packet, whatsoever, is going to be helpful.

Q: So how do you think the word processor, the actual computer, how did that change your writing? Or did it change your writing?

A: I don't think it has changed my writing as much as its gotten across - correct. Its corrected my writing. Its just brought my writing down to where my thoughts are.

Q: So seeing the whole picture, seeing the whole paper in one place, that's helpful to you?

A: Yeah, just seeing it. How it's going to look when it is done. Whether it's going to balance or whether it's going to seem too long, whether people are going to . . . I guess the commercial aspect of it, whether at a glance it's going to be eye-catching when it is all typed. That's what the finished product is going to look like - what was on the screen. And not have to print it out fifteen times to see what that commercial art appeal is going to look like. Whether they are going to want to look at it or if they can see how much is involved. Then just spread it out, to use different type faces to set, maybe enlarge or darken one. Seeing that is really great.

Q: Some of the students have said that it helps them see your errors more quickly or it helps them see the finished product of the paper more quickly. Is that more helpful to you when you're working with the computer?

A: Yes. If I go through and type the whole thing and then go back and look at it, I'll find the errors, but if I them down in my own handwriting, whatever I personally write down looks totally correct to me.

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Interview with Gary

Q: So, let's say you were writing a composition paper for an English class, how long would it take you to write that paper?

A: Realistically?

Q: Realistically.

A: A month. If it was something that I just whipped together, that I didn't put any thought into it, possibly a week. But, if I want to get a good grade on something, a composition, at least a month. Unless I had a lot of help on it, which in most cases I did.

Q: Were you frustrated by that, that it took you so long to write an assignment?

A: Yes, I'm finding in the last week that I'm getting more frustrated with my homework than I did fall quarter or winter quarter.

Q: Why was working the Macintosh hard for you? Can you describe it?

A: I wasn't able to move the arrow or the mouse to where we wanted it - my hand would jerk at the last minute. This happens every now and then, especially when I'm nervous. I just didn't feel comfortable.

Q: Then we moved you to the Apple II+ and you started using the matrix window. How did that work for you?

A: Everything is laid out and all. All the directions on the disks were to push a button. I found the buttons and just followed the menu. It's easy for me to follow a menu.

Q: That's the packets, right?

A: Yes, the packets. On good days I have . . I mean I have a few good days and a few bad days. And working on the computer . . I know the first time I came in I was frustrated at that because I read it . . it's just that day it didn't comprehend. I didn't know what I was doing.

Q: Didn't you, correct me if I'm wrong, wasn't it one hand that you adapted or used differently so you could press down a couple of keys at the same time?

A Well, I don't have complete function of my left hand.

Q: Okay, that's what it was.

A: And so I have to keep that as stiff as possible. And I do most of my work with my right hand.

Q: And you're able to type, from what you told me, you're able to type pretty well?

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A: Chicken peck but it's hell.

Q: It still works, huh? So what were some of the obstacles that you were working with in your writing? Maybe that changed or better stuff here using the computer?

A: Knowing where all the letters and numbers are on the computer.

Q: How do you think that will help you? Do you think it will help you see easier the big picture of what the instructor is saying or will it help you follow your handwriting better or how do you see that help you?

A: When I read something, it's like home. It's just something going in my head, in one ear and out the next. But if I write it down . . even if I write it down I can't understand what I write, which is strange. But it's clear on the picture tube - on the computer. And if I can see it.

Q: It makes it easier for you to understand it. Do you have any idea why that is?

A: Because there's no blur. See, my handwriting is so bad. My 'i's' look like 'e's' or look like 'l's' or something. It's just one big mess. But if I put like 'i's' in here or 'l's' in here, it's clear and then if I get it printed I can read the clarity and understand it better. Possibly give examples if I have any.

Q: So long as translate your notes for you? What else do you think the computer will do for you like in terms of your writing assignments? Do you have any idea at this point whether it will help your writing or increase your writing or . . what do you think it's going to do for you?

A: I'm not really sure. Here, just pushing the buttons as opposed to writing them down I don't see . . . There's a lot of differences but I don't see how I can compare my writing to just pushing buttons.

Q: So kind of, in summary, do you see any advantages at all for using the computer at this point?

A: Yes

Q: And what are they?

A: Well, to help me a lot with my reading journals. Good understanding of my class notes. And, if possible, if there's any disks like them working with math to get a better understanding. Now, I've only encountered working with the reading comp. But I'm not sure if they have math disks or what they have.

Q: Coming to a conclusion. If you were talking to maybe some other professionals, or if you were talking about using the computer with learning disabled students, how would you explain that to them. Or what would you say to them?

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A: I would say, in my case, that it was easier for me to learn the computer, and faster, if everything was done step by step and told me what I had to do next and then told me what to expect.

Q: So that's how you would like to be taught? If other people, other LD people, were being taught on the computer that's what you would suggest?

A: Right.

Q: Like a step-by-step format.

A: Right. So they can get a clear knowledge of what they're doing instead of walking into a class and the instructor would talk all hour and then taking questions and stuff at the end of the hour, and everybody being lost.

Q: And that's what you think would happen without a step-by-step format?

A: Right. Not in all of them, but in my case. Unless I see it and write it down and not just see it, I can't do the work.

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